

ABSTRACT

The invention provides a press-molding apparatus, a mold, and a press-molding method, which can shorten a molding cycle and enhance productivity. There are provided a first mold; a second mold disposed to face the first mold and including a substrate (14), a heat insulating member (21) disposed on a side of the substrate (14) facing the first mold, and a machining member disposed on a side of the heat insulating member (21) facing the first mold and having irregularities on a surface facing the first mold; a loading processing section for loading a to-be-machined member on the first mold; a heating processing section for heating the to-be-machined member to a molding temperature higher than a state change point of a material which constitutes the to-be-machined member; and a transfer processing section for pressing the machining member against the to-be-machined member so as to transfer the irregularities to the to-be-machined member. In this case, since the machining member is disposed on the side of the heating insulating member facing the first mold, the machining member can be heated to the molding temperature and cooled to the mold release temperature within a short time.